VARIOUS.

CABINETS, COFFERS, AND CHESTS.

These are well-known pieces of furniture, and are to be found in every house that has the slightest pretensions to antiquity. Cabinets, Hunt observes, "were of massive proportions, carved in oak, ebony, walnut, and other woods, and sometimes inlaid". Some of these answered the double purpose of depositories and cupboards for plate; and from having drawers and recesses inclosed by doors, and broad shelves between the tiers of turned columns, were conspicuous objects. Their exterior appearance often displayed much carving and other decoration, with curious hinges, escutcheons, handles, and angle ornaments. The coffers and chests were covered with iron straps and bands, and had curiously-formed locks and hinges and corner ornaments.

For the termination of the strap and hinge bands, the *fleur-de-lis* was often resorted to, and the general form and proportion of these ornamented bands of iron were something like those of a sceptre. The handles were of curious workmanship; and sometimes the chest was raised on feet, and at other times on a plinth. Oak was the wood of which these chests were most frequently made, but sometimes they were inlaid with different woods. In all houses in the country, where there are large halls and passages, massive chests were most useful pieces of furniture for containing articles which was thought desirable to conceal, especially lumber or fuel. The exteriors of all such chests or wardrobes were rendered curious and highly interesting, by carvings more or less elaborate in kind and character.

The Furniture Gazette.

WHICHCORD'S PATENT FIREPROOF FLOORS.

Wrought iron is the material now generally used in constructing the supporting framework; but experience has shown that even when combined with concrete and nearly embedded in it, wrought iron gives way under even the moderate heat of fire in a dwelling house. It is well known, however, at any rate to those familiar with iron foundries, that a layer of fire-clay or fire-bricks not more than 1½ in. thick, will protect the wrought iron casing of a cupola from the fierce heat of the fire within, and if it were possible to coat wrought iron girders in the same way, might not a really fireproof beam be constructed? This idea has been carried out practically by Mr. J. Whichcord, the architect to the National Safe Deposit Company, in their great building near the Mansion House, and we have recently witnessed some experiments, by which the value of this new mode of protecting girders from extreme heat was strikingly demonstrated. Mr. Whichcord's system consists in encasing the webs and lower flanges of girders with fire blocks made in lengths of about 9 in., with a minimum thickness of 1½ in. to 2 in. and so shaped as to fit the girders loosely, and at the same time to form skew backs for the reception of arches, ledges for ceiling joists, or other attachments. The blocks are set in fire-clay, and being placed on each side of the girders join in the centre and completely envelope and protect the lower flanges and webs. To test the efficacy of this method of protection the following experiment was made at Messrs. Easton's and Anderson's works, at Erith. A furnace, 15 ft. long and 4 ft. wide in the clear was constructed, a rolled joist 17 ft. by 10 in. deep, 5 in. wide, weighing 7 cwt., was laid longitudinally so as to span the furnace lengthways; it was covered with Mr. Whichcord's fire-blocks, and arches were turned from it to the side walls, and the whole covered with concrete to represent as nearly as possible an actual floor. The uniformly distributed breaking load of the girder at 15 ft. span is 26 tons; it was loaded by means of pig iron to one-fourth, or 6½ tons. After drying the structure with a slow fire for a few days, the first experiment was made on the 26th of last March by keeping up a fierce fire of old pattern wood for two hours and a-half, and then suddenly deluging the hot bricks with water. As the girder heated the deflection gradually increased to 1¼ in., but when cold, and relieved of its load, it completely regained its original state; the fire apparently had no effect whatever on it, although the bricks of the furnace and the blocks protecting the iron were vitrified on the surface. A second experiment was tried, the furnace having been rebuilt. A fire of dry wood was lighted at one o'clock in the afternoon, kept up as fiercely as possible for one hour and a-half, and then moderately till 2,30 o'clock on the next day, or for twentynine hours and a half in. all; after which it was quenched by a jet of water from a hose. The deflection of the girder, which was 3/32 in. when cold, increased to 1 in. by four o'clock, reached a maximum of 1 3/16 in. at nine o'clock, and remained at about 1 in. till the fire was put out, after which, and when the load was removed, the still heated girder showed 3/8 in. deflection. The fire blocks were uninjured and the girder perfect in shape and surface. When cold the deflection was 3/32 in., as before. A certain degree of suspicion attaches to all experiments of this nature, yet it is impossible to resist the conviction that the iron joist was really efficiently protected from the fire.

The end which projected 6 in. out of the setting at the furnace end where the fire was naturally hottest, was quite cool, not above 90 deg. at five o'clock on the evening, three and a half hours after the fire was lighted; the girder is uninjured, and will be used in the building for which it was intended, and we are constrained to admit that a fair and even severe trial has shown that a really fireproof floor, capable of resisting furnace heat for hours, can be constructed at no very great cost beyond that incurred in the very imperfect floors commonly called fireproof.

The Engineer.

PRE-HISTORIC MAP.

The German Society of Anthropology is industriously collecting material for the pre-historic map which, it was resolved, at the meeting of April 1870, to prepare for publication. Among other points to be indicated on this map will be the position of the most notable pre-historic settlements, fortifications, lake-dwellings, cave-dwellings, burial mounds, and other places of sepulture. By a judicious use of colours, the various periods — stone, bronze, and iron — will be indicated, and altogether the map will be one of great value to the student of archæology and ethnology.

ANCIENT BLUE.

A remarkable and very beautiful shade of blue is noticeable upon many of the ancient ornaments found in the tombs of Egypt. Analysis sometime since proved the colour to be formed by a combination of soda, sand, and lime, with certain proportions of copper, from which substances the Egyptians managed to produce three different products; first, a peculiar kind of red, green, and blue glass; second a brilliant enamel; and lastly, the colour to which reference is above made, and which was used for painting. By synthetical experiments, M. Peligot has succeeded in reproducing this peculiar shade of blue, by heating together 73 parts of silica with 16 of oxide of copper, 8 of lime, and 3 of soda. The temperature should not exceed 800 deg. Fah. as, in such case, a valueless black product is the result.
